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	Mackenzie.	
Forts Norman and Franklin (Bear lake), 1869	Slaves or Etcha-ottiné	97
	Dog-ribs	47
	Mountain Indians	43
	Hareskins	85—272
Fort Good Hope, 1867	Hareskins	422
Fort Macpherson (Peel R.), 1866, including La Pierre's House	Dindjie or Loucheux Quarrelers, Kutchin	290
	Eskimo of the Anderson	250
	Eskimo of Mackenzie	300—550
Forts Leard and Nelson	Slaves	500
Population of the Mackenzie		4214
	Athabasca.	
Forts Chipewyan and Smith, 1879	Chipewyans	537
	Crees	86—623
Fond du Lac, 1879	Caribou-eaters	318
Vermilion (Peace river), 1879	Beavers	234
	Crees	6—240
Fort MacMurray (Athabasca river), 1879	Chipewyans	31
	Crees	22— 53
Fort Dunnegan (Peace river), 1879	Beavers & Sécanais	195
	Crees	137—332
Fort St. John (Peace R.), 1879. Lesser Slave L.	Sécanais	195
Population of Athabasca		1761
Maximum total		5975

MICROSCOPY AND HISTOLOGY.[1]

Sections of Diatoms.—Dr. J. H. L. Flögel's paper on "Researches on the structure of cell-walls of Diatoms" was brought before the meeting by Mr. J. Mayall, Jr., who, in his preliminary remarks, said that it would be remembered that some time ago they had heard reports that some one abroad was making sections of diatoms, and he was requested by Mr. Crisp to institute inquiries with the view of bringing the method before the society. He subsequently found that this work was being done by Dr. Flögel, of Holstein, who, there appeared no reason to doubt, was not only a skilled and competent observer, but that he possessed every kind of appliance for making careful observations. Having ascertained this, the next thing was to obtain specimens of actual sections of diatoms, without which it was of course not possible to form any satisfactory judgment on the matter. He was fortunate in persuading Dr. Schröder, now resident in London, to write to Dr. Flögel upon the subject, and in the result they had received a very elaborate paper accompanied by a dozen slides and a number of photographs and drawings in illustration.

A careful examination of the slides showed that Dr. Flögel was thoroughly familiar with the finest processes of mounting, and with all that had been done by Möller. One of the slides was exhibited in the room under a $\frac{1}{25}$ in. objective by Mr. Powell. It was a section of *Triceratium favus*, and the excellence of the specimen gave rise to the impression that something even more difficult than this could be accomplished. Amongst the other specimens sent were some very clean-cut sections giving an exceptionally clear image. It was stated by Dr. Flögel that as many as 174 transverse sections had been made of one diatom., all of which could be plainly identified as belonging to the same diatom. Mr. Mayall said that he could not pledge himself as to the correctness or otherwise of the theory set up by the author of the paper, as the subject was not one which he had made his own, although he had taken some pains to translate the paper for publication in the journal of the society.

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[1] Edited by Dr. C. O. Whitman, Mus. Comp. Zool., Cambridge, Mass.

Mr. Mayall then read an abstract of the paper to the meeting, and the subject was discussed by Mr. Curties, Mr. Crisp and other fellows.

The chairman in proposing a vote of thanks to Mr. Flögel for his paper, said that he was sure the society would feel doubly indebted to Mr. Mayall for the exertions which he had made to procure the paper, and also for the trouble he had taken in the matter of translation.

Mr. W. J. Sollas's letter on the subject of cutting sections of diatoms was formally laid before the meeting. It had reference to the paper of Dr. Flögel, read at the December meeting, and was also intended to be read at that meeting, but did not come to hand until the meeting was over, when it was informally communicated to those present. The letter was as follows:

"For some time past I have been engaged in cutting sections of diatoms. My plan is to scrape off a green slime from our river mud, consisting chiefly of *Pleurosigma zigzag*, a large species suitable for cutting. The slime, together with some mud unavoidably gathered at the same time, is placed in a saucer and covered with a piece of muslin, which lies in immediate contact with the mud, while a film of water lies above it. The saucer is now exposed to daylight and the diatoms creep through the muslin, collecting in a consistent film on its upper surface. The muslin may now be lifted from the mud; it comes away clean, bringing all the diatoms with it, but leaving the mud. The muslin with the diatom film is now immersed in the usual hardening and staining reagents. I have used a mixture of chromic and osmic acids and absolute alcohol for hardening; borax-carmine, hæmatoxylin and eosin for staining. When duly stained and hardened the diatom films may be removed from the muslin without difficulty and cut either by imbedding in pure paraffine (melting point 58°) and mounting in Canada balsam, or by freezing in gelatine jelly, which allows one to cut *consistent sections which may be mounted direct in glycerine* on a glass slide without passing through water. By employing these two processes I have made out the internal structure of diatoms, and believe that I can detect fine protoplasmic threads proceeding from the protoplasm that surrounds the nucleus and passing through apertures in the median keel. I am not yet, however, in a position to demonstrate this with absolute certainty, but hope to do so soon."—*Jour. of the Roy. Micros. Soc., Feb., 1884.*

KILLING HYDROID ZOOPHYTES AND POLYZOA WITH THE TENTACLES EXTENDED.—H. C. Chadwick recommends the polyzoön to be placed in a small beaker or clear glass bottle, and allowed to remain at rest for several hours. Now take a dipping-tube, drawn out to a very fine point, and charge it with absolute alcohol. Having ascertained by means of a pocket-lens that the polypides are fully extended, allow the alcohol to drop very gently from the point of the tube which should be held just above the surface of the water. The success of the experiment depends largely upon the care with which the first quantity of alcohol is introduced into the water. After the lapse of an hour, if the polypides are still extended, a further quantity of alcohol is added until the quantity reaches sixty per cent.

After passing through seventy-five per cent alcohol, the specimens may be kept in ninety per cent of the same until required for mounting. Experiments with alcohol upon hydroid zoöphytes were not so successful, but Kleinenberg's picrosulphuric acid solution gave excellent results. The use of this reagent is attended with much less difficulty than that of alcohol. If the subject of the experiment is a zoöphyte, such as *Aglaophenia pluma* or *Plumularia setacea*, it must be allowed to remain some hours until the polypides are fully extended. Kleinenberg's fluid must then be introduced by means of a dipping-tube. It may be allowed to flow over the specimen in a continuous stream until the whole of the water assumes a golden-yellow color. The reagent causes instant death, so that the specimens may be transferred immediately to sixty per cent, and afterwards to seventy-five per cent alcohol, allowing them to remain in each solution for some hours. Keep in ninety per cent alcohol. From four to six minutes' immersion in Martindale's picrocarmine staining fluid is sufficient to stain specimens killed by either of the above methods.—*Jour. of the Roy. Micros. Soc., Feb., 1884.*

MOUNTING FLUID FOR ALGÆ.—For preserving the cell-contents and the natural color and form of desmids, volvox and other algæ, G. W. Morehouse finds a mounting fluid made as follows to act well: Dissolve fifteen grains of acetate of copper in a mixture of four fluid ounces of camphor water, four fluid ounces of distilled water and twenty minims of glacial acetic acid; add eight fluid ounces of Price's glycerine, and filter. When sections of plant-stems or other vegetable specimens are mounted in this fluid, the protoplasm is preserved. If in any case it is thought desirable to increase or diminish the specific gravity of the preservative, the proportion of glycerine may be changed. Used as above, or modified as indicated, he thinks it also a trustworthy medium for mounting Infusoria and the softer animal tissues.—*Jour. of the Roy. Micros. Soc., Feb., 1884.*

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SCIENTIFIC NEWS.

— The thirty-third meeting of the American Association for the Advancement of Science will be held at Philadelphia, Penna., Sept. 4–10, 1884.

The British Association has invited the members of the American Association to join in the meeting at Montreal, and the American Association and the local committee of Philadelphia have invited the members of the British Association, with their near relatives who may be with them, to take part in the Philadelphia meeting.

A series of receptions will be offered the association and its guests, including one at the Academy of Music after the president's address; a reception at the Academy of the Fine Arts; a garden party at Haverford College, and a microscopical exhibition at the Academy of Natural Sciences. The botanical section of the Academy of Natural Sciences will organize botanical excursions, and will also hold a special meeting at the Academy for Botanists. There will be visits to the Internatianal Electrical Exhibition, the Zoölogical Gardens, Fairmount Park, Independence Hall and other places of interest, and the various institutions in the city will welcome the association to their halls. Several excursions will be offered to take place during the session, to the sea-shore, the coal regions and other points of interest, and possibly limited excursions to more distant points after the meeting.

The meeting will be called to order, in general session, at 10 o'clock on Thursday morning, Sept. 4th, in the Academy of Music, by President C. A. Young, of Princeton, who will resign the chair to the president-elect, Professor J. P. Lesley, of Philadelphia. After the adjournment of the general session, the sections will organize in their respective halls. General sessions and sections will be held on Friday. The vice-presidents of the sections will probably give their addresses during the day, and in the evening President Young will deliver his address at the Academy of Music, after which there will be a reception tendered to the members of the association, and their invited guests, by the local committee and citizens of Philadelphia. Saturday will probably be given up to excursions and receptions. The general programme for the rest of the meeting will be similar to that at previous meetings.

The headquarters of the association will be at the Academy of